AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A sparse array antenna comprising series-fed antenna array columns tuned to a respective transmit and receive frequency, ~~characterised in that~~ wherein

transmitting and receiving array columns are formed with a given distance between each transmitting radiator element and each receiving radiator element, the series-fed antenna columns being arranged in parallel to each other, thereby forming a symmetric interleaved transmit/receive array; and

receiving array columns operate as parasitic elements in a transmit mode and transmitting array columns operate as parasitic elements in a receive mode, thereby reducing creation of grating lobes.

2. (Currently Amended) The antenna according to claim 1, ~~characterised in that~~ wherein a distance between each transmitting antenna array column and each receiving antenna array column is typically increased to be of an order of one wavelength (λ) to thereby obtain a sparse array.

3. (Currently Amended) The antenna according to claim 2, ~~characterised in that~~ wherein the series-fed array columns are formed as extended ridged slotted wave-guides tuned to a respective transmitting and receiving frequency.

4. (Currently Amended) The antenna according to claim 3, ~~characterised in that~~wherein when having number *n* of slots in each slotted transmitting wave-guide the number of slots in each slotted receiving wave-guide being generally $n \pm x$, where *x* represents an integer digit *(x =0, 1, 2,3...)*.

5. (Currently Amended) The antenna according to claim 2, ~~characterised in that~~wherein the series-fed array columns are formed as extended transmission lines containing radiation elements, the array columns being tuned to a respective transmitting and receiving frequency.

6. (Currently Amended) The antenna according to claim 1, ~~characterised in that~~wherein the sparse array antenna is arranged to be scanable to also provide reduced sidelobes entering visual space when scanning the main radiation lobe from an off boresight direction.

7. (Currently Amended) The antenna according to claim 1, ~~characterised in that~~wherein each one of the series-fed antenna column is narrowly tuned within a respective frequency band to thereby reduce coupling between the transmitting and receiving bands used.

8. (Currently Amended) The antenna according to ~~anyone of the preceding claims~~claim 1, ~~characterised in that~~ wherein the series-fed antenna array columns are connected to and fed from an active receive/transmit (T/R) module.

9. (Currently Amended) The antenna according to claim 2, ~~characterised in that~~wherein only one set of series-fed columns being actively used and another interleaved set of series-fed columns are terminated by a suitable load forming parasitic columns of the sparse array antenna.